Warranty

WARNING

The operating description in this Instruction Manual is for use by qualified personnel only. To avoid electrical shock, do not perform any servicing of this unit other than that contained in the operating instructions, unless you are qualified and certified to do so by Omnitron Systems Technology.

Warranty

This product is warranted to the original purchaser against defects in material and workmanship for a period of ONE YEAR from the date of shipment. You may register your product on the Internet at http://www.omnitron-systems.com. During the warranty period, Omnitron will, at its option, repair or replace a product which is proven to be defective.

For warranty service, the product must be sent to an Omnitron designated facility, at Buyer's expense. Omnitron will pay the shipping charge to return the product to Buyer's designated US address using Omnitron's standard shipping method.

Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from improper or inadequate use and/or maintenance of the equipment by Buyer, Buyer-supplied equipment, Buyer-supplied interfacing, unauthorized modifications or tampering with equipment (including removal of equipment cover by personnel not specifically authorized and certified by Omnitron), or misuse, or operating outside the environmental specification of the product (including but not limited to voltage, ambient temperature, radiation, unusual dust, etc.), or improper site preparation or maintenance.

No other warranty is expressed or implied. Omnitron specifically disclaims the implied warranties of merchantability and fitness for any particular purpose.

Exclusive Remedies

The remedies provided herein are the Buyer's sole and exclusive remedies. Omnitron shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any legal theory.

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Omnitron Systems Technology, Inc.

iConverter CWDM/AD
1 Channel Single-Fiber Add/Drop Multiplexer
USER MANUAL

Product Overview

iConverter 1-Channel Single-Fiber CWDM/AD modules are Course Wave Division Multiplexing (CWDM) Optical Add and Drop Multiplexers (OADM). The CWDM/AD modules add (multiplex) and drop (de-multiplex) one channel on one or both directions of a CWDM single-fiber common link. Nine standard models of the 1-Channel Single-Fiber CWDM/AD modules are available.

The Single-Fiber CWDM/AD modules support dual fiber Channel Ports and single-fiber Common Port connections. Each fiber strand on the Channel Port supports a different wavelength, one wavelength for transmit (Tx) and a different wavelength for receive (Rx).

Port Definitions

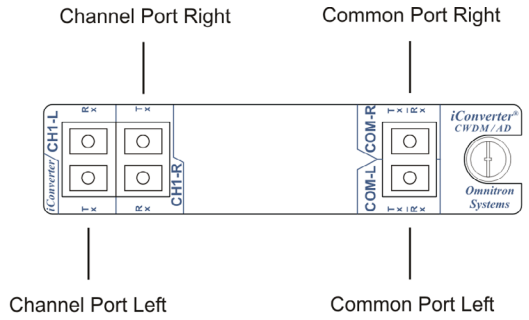

Figure 1: Front Panel View of a 1-Channel CWDM/AD module

Channel Port (Left and Right)

The Channel Ports transmit and receive signals using two specific CWDM wavelengths. The Channel Ports are multiplexed on and demultiplexed from the Common Port. As shown in Figure 2, each Channel Port on the CWDM/AD module has a Left and Right port. Each Channel Port supports a different transmit and receive wavelength based on the CWDM/AD model. Data transmitted and received by Channel Port Left is aggregated on Common Port Left and data transmitted and received by Channel Port Right is aggregated on Common Port Right.

When connecting external dual fiber transceivers to the Channel Port, select an optical transceiver that matches the receive wavelength of the specific Channel Port. Since the Channel Port uses two different wavelengths over dual fiber, the receiver of the external dual fiber transceiver must have the capability to detect

the transmit wavelength of the Channel Port. Typically, the receiver of a dual fiber transceiver has an operating center wavelength of 1260nm to 1610nm. Verify the external transceiver's optical parameters before using.

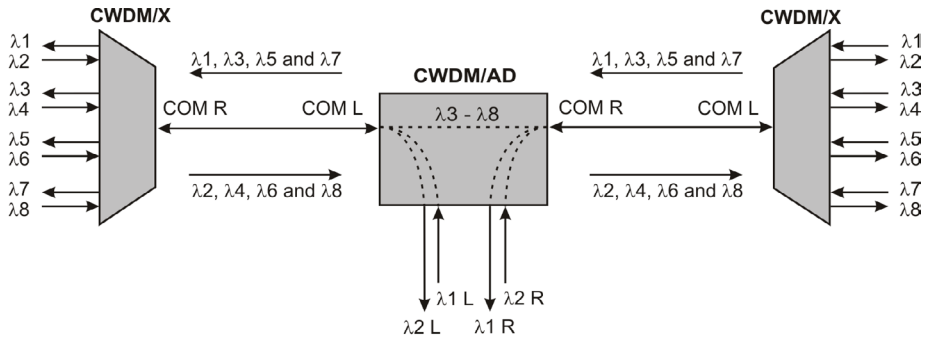

Figure 2: 1-Channel Add/Drop MUX/DEMUX

Common Port (Left and Right)

The aggregated wavelengths from the Channel Ports are transmitted and received over the single-fiber Common Port. As shown in Figure 2, there are Left and Right Common Ports on the CWDM/AD module. Common Port Left (COM-L) and Common Port Right (COM-R) are internally connected to pass through all wavelengths not dropped or added by the specific CWDM/AD model Only the specific wavelengths of the model selected will be dropped to the appropriate Channel Port. Common Port Left drops and adds wavelength traffic from Channel Port Left and Common Port Right drops and adds wavelength traffic from Channel Port Right.

Installation

1. Carefully slide the module into an open slot in an *iConverter* chassis. Align the module with the installation guides and ensure that the module is firmly seated against the backplane. Secure the module by fastening the front panel thumbscrew (push in and turn clockwise to tighten) to the chassis front. The CWDM/AD module requires no external power, however, if management is required, the module must be installed in an *iConverter* powered chassis with a Network Management Module (NMM2 model 8000N-1).
2. Connect a single-mode, dual fiber duplex LC cable between the Channel Port of the CWDM/AD module and the attached device. It is important to ensure that the wavelength of the CWDM/AD matches the wavelength of the attached device. Connect both Channel Ports in this manner. Ensure that the transmit (Tx) is attached to the receive side of the device at the other end, and the receive (Rx) is attached to the transmit side.
3. Connect a single-mode, single-fiber simplex LC cable between the Common Ports on the CWDM/AD modules (this connection may be made through fiber patch panels since the modules may not be co-located) or CWDM/X module. Make sure the Left/Right designation is followed.

NOTE: For proper installation, a network diagram indicating port designations is recommended.

NOTE: The *iConverter* CWDM/AD modules can not be installed in slots 4, 8, 12 and 16 of a 19-Module Chassis or in the top slot of a 2-Module Chassis or in a 1-Module Redundant Power Chassis.

Design Considerations

iConverter CWDM/AD modules are passive devices that require no external power. Attenuation (signal loss) of less than 1.9dB will be realized through each port on the module (see the CWDM/AD Data Sheet for exact attenuation specifications for model used). Detailed calculations should be performed for each fiber optic link in the network to ensure the proper optical devices are specified with sufficient transmitter power.

When calculating optical loss, ensure that the total attenuation, plus a safety factor (typically 3dB), does not exceed the optical power budget. The optical power budget is the difference between the transmitter optical output power and the receiver's optical sensitivity.

The transmitter optical output power and receiver optical sensitivity values can be obtained from the manufacturers of the respective equipment.

For more information, access Omnitron's documentation download web page to view all relevant documents:

http://www.omnitron-systems.com/downloads.php

Model Numbers

Model Type	Model Number	Channel Port ITU Center Wavelength (nm) Tx/Rx	
		Left Channel	Right Channel
1-Channel OADM	8878-27	1271/1291	1291/1271
	8878-31	1311/1331	1331/1311
	8878-35	1351/1371	1371/1351
	8878-39	1391/1411	1411/1391
	8878-43	1431/1451	1451/1431
	8878-47	1471/1491	1491/1471
	8878-51	1511/1531	1531/1511
	8878-55	1551/1571	1571/1551
	8878-59	1591/1611	1611/1591